

Aquarium of the Pacific
Ocean Science Center
Summary Evaluation Report
Prepared by the Research Group at Lawrence Hall of Science
January 2012

Background

The Aquarium of the Pacific (AoP) in Long Beach, California, contracted with the Research Group at Lawrence Hall of Science to conduct an evaluation of their new Ocean Science Center (OSC). The OSC was designed to house a room-sized global display system designed and distributed by the National Oceanographic and Atmospheric Administration called *Science on a Sphere* (SOS), upon which public science centers can project a range of shows and interactive data about Earth system science. At this time, there are two shows being displayed on the SOS at AoP: *A Working Waterfront: Seaports of San Pedro Bay* and *Rising Sea*.

Paper surveys were administered to guests in the OSC gallery November 12 – 14, 2011. The purpose of this particular evaluation task was to continue to document visitors' overall experience in the OSC, the extent to which they are provided with an educational experience and to explore options for a longer experience in the gallery. Further, data were collected regarding potential change in visitors' behavior as a result of their experience. Follow-up data will be collected to determine the impact of the programs.

It is important to note that the evaluation of this project encompasses a range of tasks and efforts; this particular task and report on findings is one "snapshot" that will be integrated into the larger context of the evaluation as a whole.

Methodology

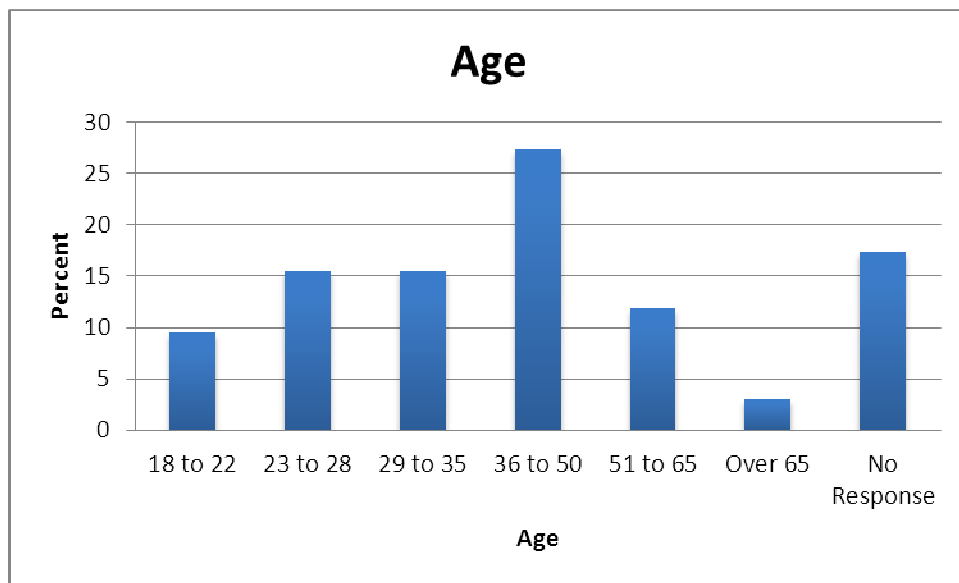
On the data collection days, visitors were told that an evaluation was taking place and notified that they would be asked to complete a survey upon exiting the gallery. Evaluators positioned themselves outside the exit from the OSC gallery with paper surveys to be completed. Completing the survey was voluntary; 168 groups (approximately 80% of groups solicited) completed surveys.

Summary of Survey Findings

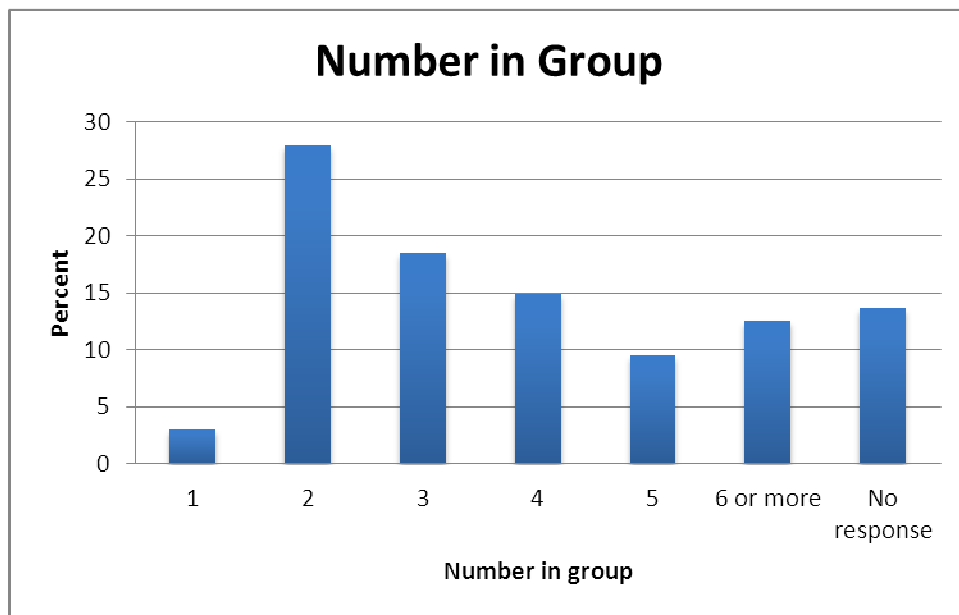
The survey asked questions in four areas: 1) about the visitors' demographic background and group makeup; 2) about the visitors' overall experience of the OSC and the shows; 3) about options for a longer experience; and 4) about potential changes to their actions as a result of what they learned about Climate Change.

The visitors' demographic background and group makeup

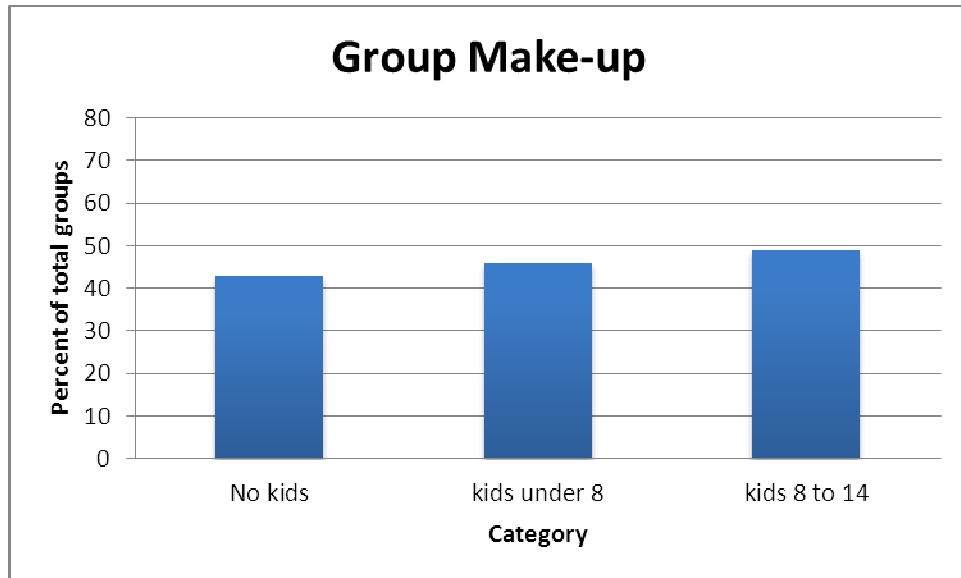
Respondents to the survey were split nearly equally by sex with 48% female and 52% male. Of those who provided an age, most fell into the category of 35 to 50 years old. The least represented group was the over 65 category.



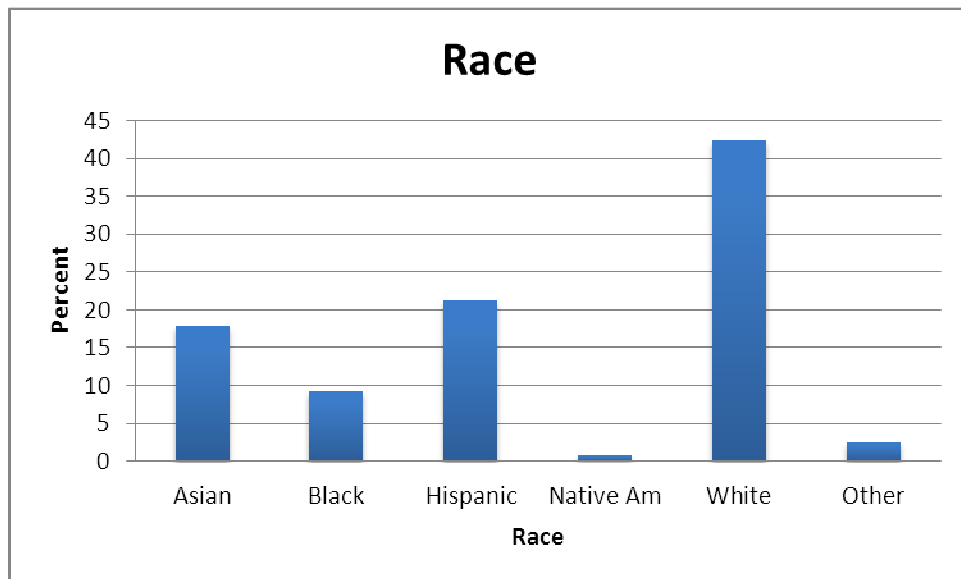
Groups ranged in size from 1 to over six people with most (28%) in groups of two.



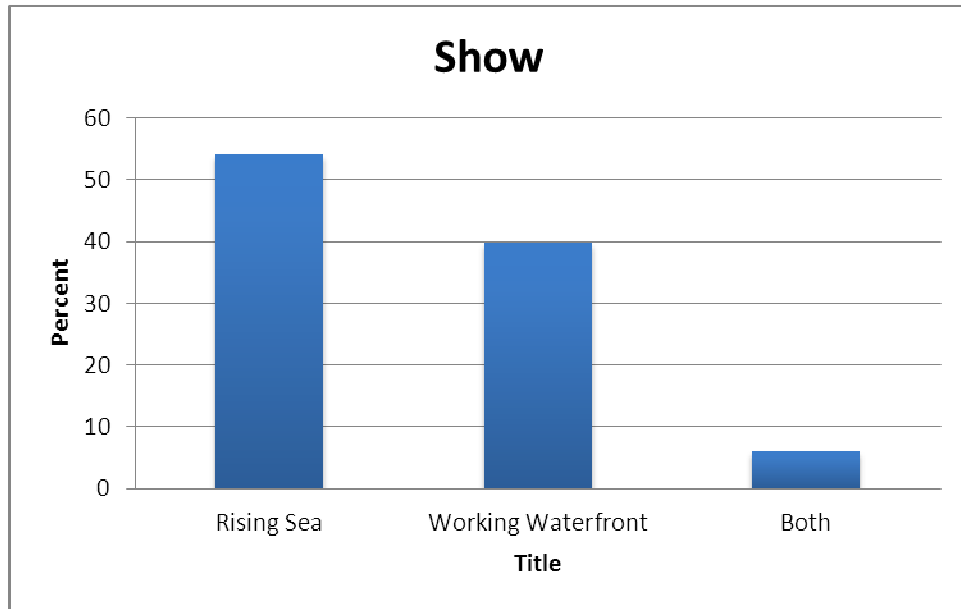
Just over half (57%) of groups that completed the survey included children under 14 years old. About half of all groups (49%) had kids 8 to 14 while fewer (46%) had kids under the age of 8. Almost one quarter (24%) of groups had kids both under 8 and between 8 and 14 years old.



Demographic make-up of the groups followed similar to that seen in general surveys of AoP visitors.

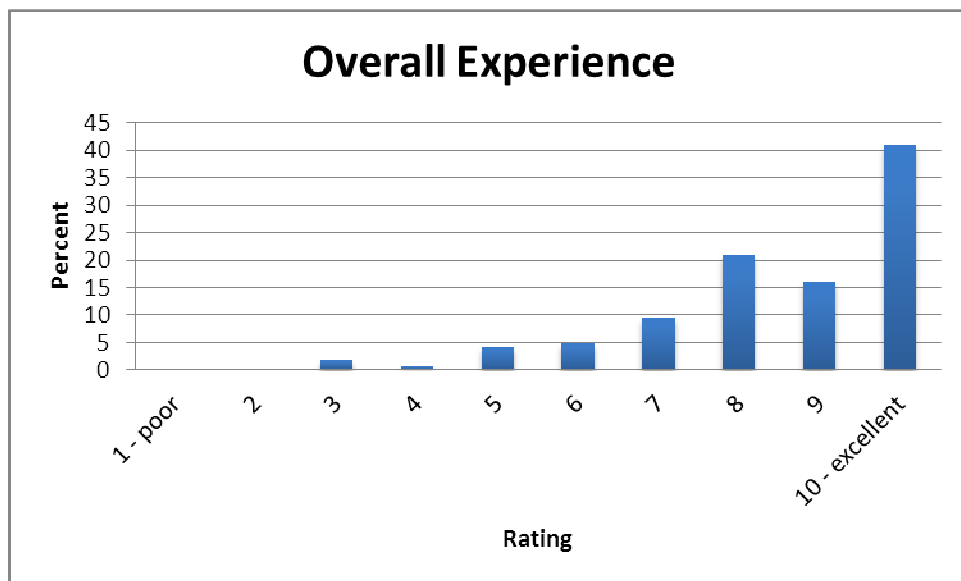


Most of the groups surveyed (54%) attended the *Rising Sea* program while 40% viewed *Working Waterfront*; 6% attended both the *Rising Sea* and *Working Waterfront* programs.

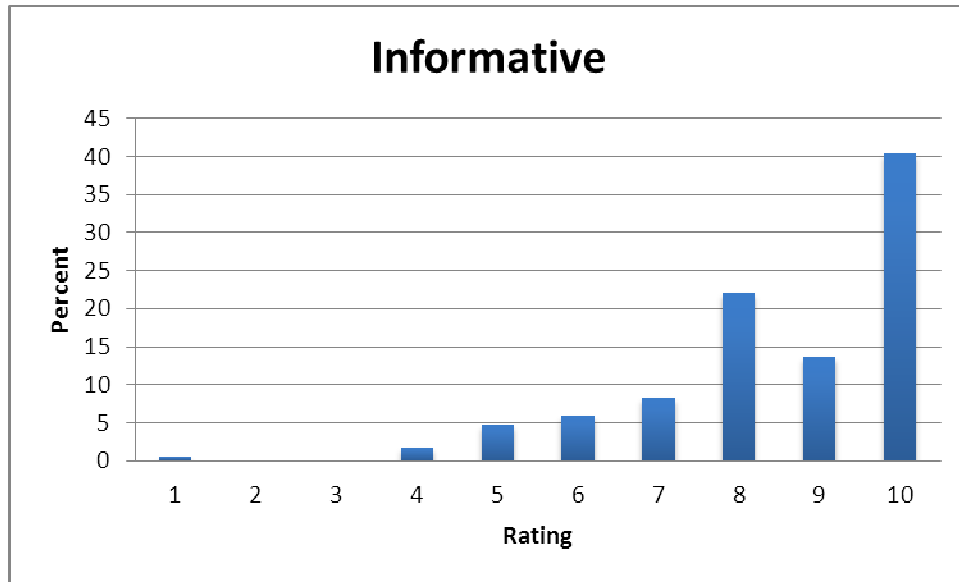


The visitors' overall experience of the OSC

Overall, visitors were very satisfied with their experience with the Ocean Science Center gallery. On a scale of 1 to 10 (*1=poor; 10=excellent*), 57% rated their overall experience as a 9 or 10. No visitors rated their experience a 2 or lower. Mean rating for overall experience was 8.46 out of 10. When disaggregated by program, the *Rising Sea* program received a significantly higher rating ($p = 0.001$) for overall experience (mean = 8.89) than *Working Waterfront* (mean = 7.94). This was the only statistically significant difference between programs.



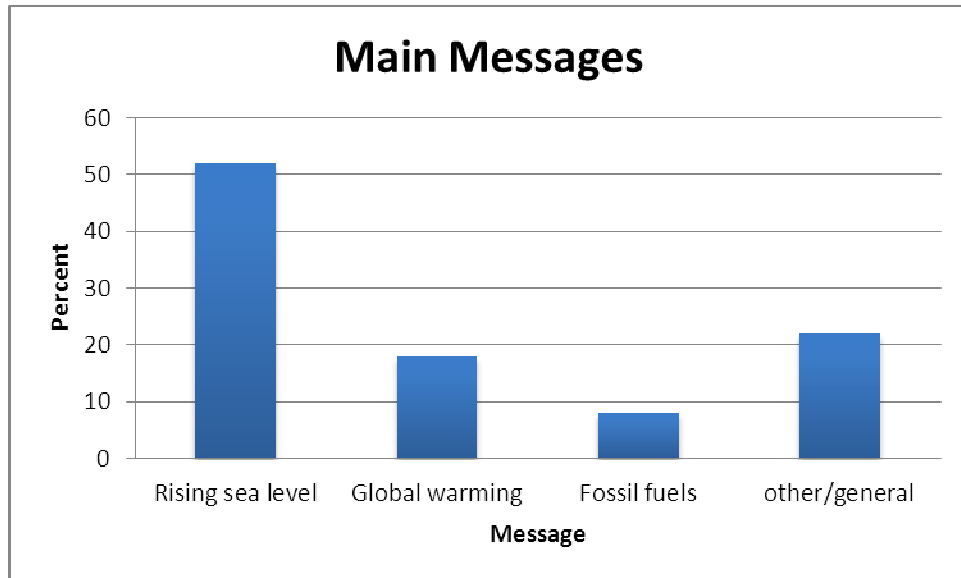
Visitors also felt that the show that they watched was informative giving it a mean rating of 8.3. On a scale of 1 to 10 (1=not at all informative; 10=very informative), 54% rated the show they watched as 9 or 10.



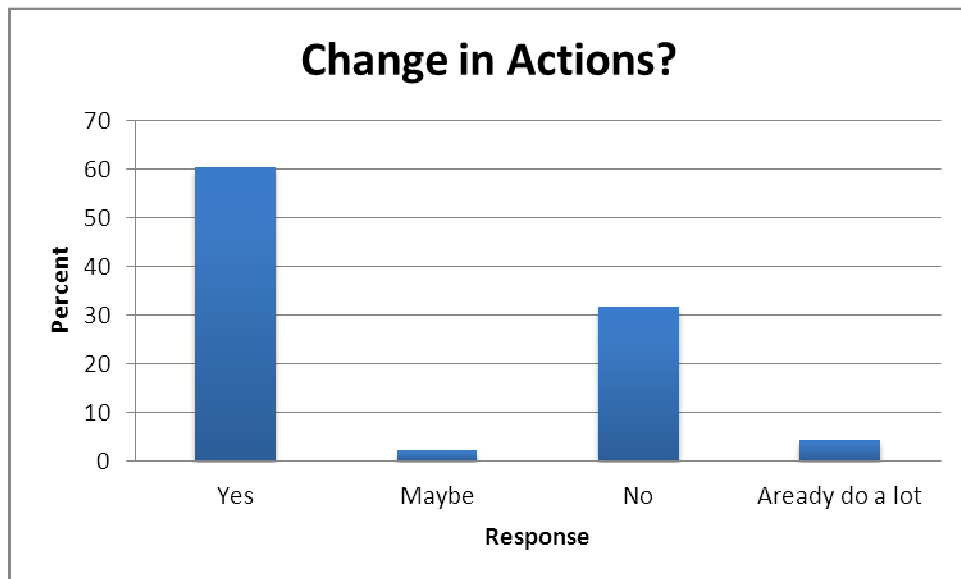
Nearly all respondents (91% *Rising Sea*, 88% *Working Waterfront*) were able to articulate at least one of the main messages for the program they saw. Common responses for *Working Waterfront* focus both on the importance of the port as well as efforts to be more environmentally responsible. Representative responses include:

- How important and efficient sea ports are to our global economy.
- They are doing all they can do to go green
- The importance of the Bay in shipping throughout the world
- How massive the shipping in S.P. Bay and how connects to world and USA.
- Educating the public about the San Pedro Ports and how they're trying to be environmentally friendly.

Most responses from viewers of *Rising Sea* stated that the main message was sea level rise; other common responses mentioned the effects of global warming on sea level and the need to decrease dependency on fossil fuels. There were a small number of respondents (~2%) who felt the presentation was biased, politically motivated or unfounded. These types of responses are expected for a topic such as Global Climate Change and there is likely little that can be done to change such attitudes during a presentation of this nature.

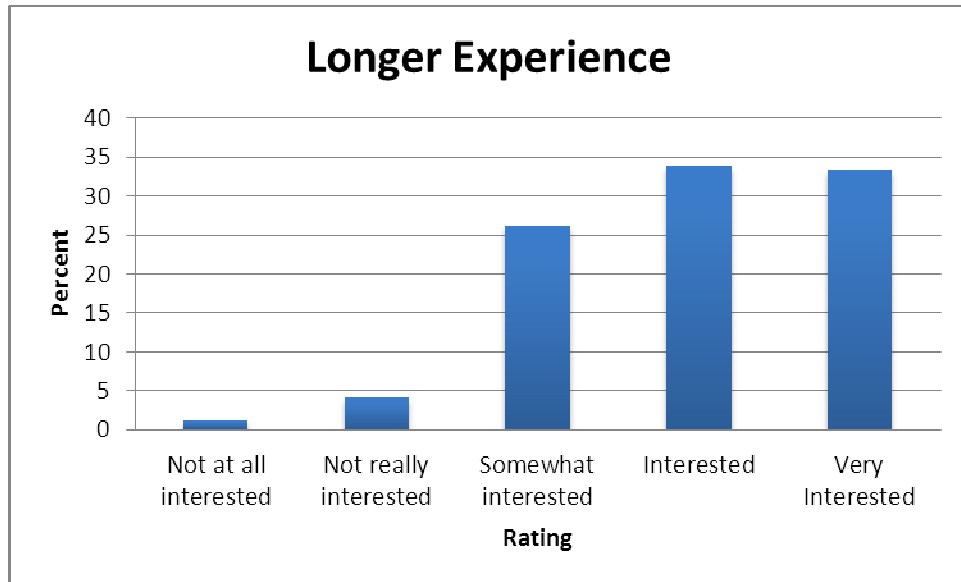


Most of those who viewed *Rising Sea* (60%) said that what they learned about global climate change would lead to changes in their actions.



Potential changes listed varied greatly however, many mentioned reducing their use of fossil fuels (saving energy at home, walking more, buying a hybrid car) and being more aware of what is going on. Many said that they would learn more about what they could do to help. Future data collection will follow-up with these respondents to see the extent to which they followed through with their ideas.

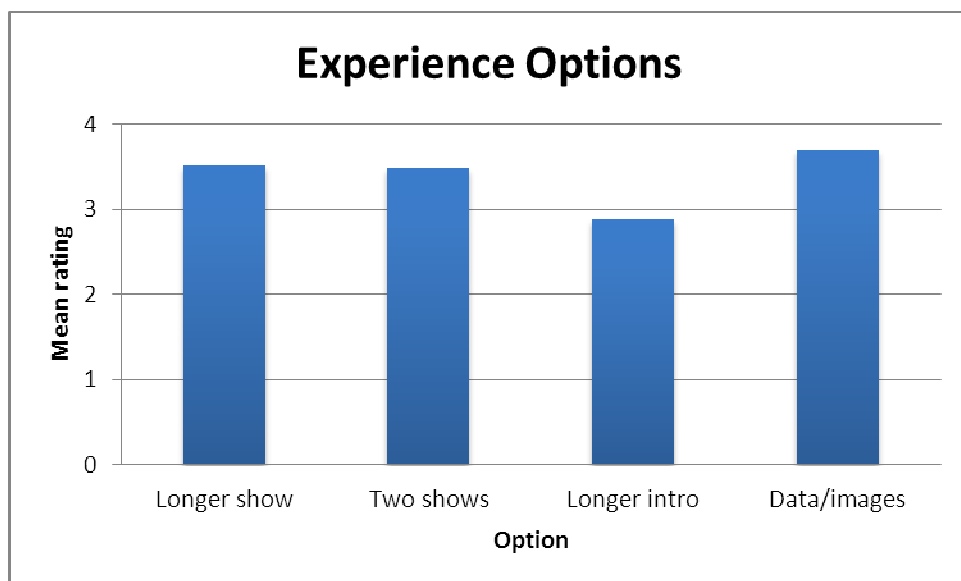
Most of the visitors surveyed are interested in a longer experience. On a scale from 1, *Not at all interested* to 5, *Very Interested*; the mean rating was a 3.9 with over two-thirds marking either *Interested* or *Very Interested*.



There was however, not clear favorite for how to extend the experience. Visitors were asked to rate on a scale from 1 to 5 (*1 – Least favorite; 5 – Most favorite*) how they would want to spend additional time in the Ocean Science Center. Their choices were:

- A longer show on a single topic,
- Two shows on different topics,
- A longer introduction to the projector and sphere technology, and
- Opportunities to see global data images projected onto the sphere.

Viewing global data images on the sphere edged out a longer show or two shows. A longer introduction was the only choice with a mean rating under 3; however differences are not statistically different.



Conclusions and Next Steps

Data collected in November 2011 continues to support the conclusion that the Ocean Science Center programs are providing audiences with a positive and educational experience. Although more groups attended the *Rising Sea* program; it is unclear whether this is a coincidence of timing for groups, or if the *Rising Sea* program has greater appeal to visitors. If this is a question of interest, data collection in February could examine people's motivation for attending the show that they did. Very high ratings were received for both overall experience and how informative visitors felt the programs were and nearly all respondents were able to articulate at least one of the main messages for the program they saw. In addition, the experience shows the potential to change visitors' behavior after their visit. Most of those who viewed *Rising Sea* said that what they learned about global climate change would lead to changes in their actions. Follow-up with respondents in February will examine the extent to which people carried out changes they anticipated. Though both shows were rated very high, the overall experience rating for *Rising Sea* was higher than that of *Working Waterfront*. Further data collection would help determine whether this pattern holds true for larger numbers of groups; however, it does not seem worth investing resources in delving deeper in to the question of why the difference might occur when the ratings for *Working Waterfront* are as high as they are.

Most visitors are interested in a longer experience in the Ocean Science Center; however, it is not clear from the data collected what the best approach to extending the experience would be. It is recommended that this item on the survey be modified slightly for February data collection in an effort to better understand visitor preferences for longer experiences.